

L 02495-07

ACC NR: AP6032957

of the material was tested on 10 x 10 x 10 mm cubic samples by repeated thermal shock cycles: heating for 5 min at 1400C with subsequent quenching in water at room temperature. The samples withstood 25—30 cycles. Additional shrinking of the samples at 1600C was insignificant. The temperature of the start of deformation under 2 kg/cm² load was 1680—1690C, while the failure temperature was 1690—1700C. An essential disadvantage of the foamed quartz glass is its devitrification at high temperatures. In this connection, the effect of various metallic or nonmetallic oxides used as additives [amounts not specified] was studied. It was found that trivalent ions (boron in particular) inhibit crystallization of the material; the inhibiting effect of quadrivalent ions is less pronounced; quinque- and sexivalent ions produced an insignificant effect. Uni- and divalent ions promote the crystallization. Foamed quartz glass compares favorably with other high temperature insulating materials. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 04Dec65/ ORIG REF: 005/ OTH REF: 001/ ATD PRESS: 5099

awm

Card 2/2

ACC NR: AP601576

(A)

SOURCE CODE: UR/0073/Co/0 2/007/0637/0.39

AUTHOR: Lopato, L. M.; Yaremko, Z. A.; Iresvyatskiy, S. G.

ORG: Institute of Problems in the Science of Materials AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Interaction between the oxides of rare-earth elements and barium oxide

SOURCE: Ukrainskiy khimicheskij zhurnal, v. 32, no. 5, 1966, 437-439

TOPIC TAGS: oxide, barium oxide, rare earth, x ray diffraction study, refractive index, strontium compound

ABSTRACT: New compounds are synthesized from BaO and the following rare-earth oxides in the yttrium subgroup: Y_2O_3 , Ho_2O_3 , Er_2O_3 , Tu_2O_3 , Yb_2O_3 and Lu_2O_3 . Some of the physical and chemical properties of the resultant compounds are studied. Microstructural analysis and x-ray powder diagrams are used for phase identification. The new compounds have the following structural formulas: BaY_2O_4 , $BaHo_2O_4$, $BaEr_2O_4$, $BaTu_2O_4$, $BaYb_2O_4$ and $BaLu_2O_4$. The melting points, indices of refraction and birefringence of the compounds are tabulated. The optical properties of the barium compounds differ somewhat from those for compounds with strontium oxide which were studied previously. The indices of refraction for the new compounds lie within the limits of the refractive indices for the initial oxides, whereas the strontium compounds show higher in-

Cord 1/2

UDC: 546.65'42

L 32957-63

ACC NR: AP6015740

0
dices of refraction than the initial oxides. Compounds with barium oxide also have low birefringence (0.005-0.01), while the analogous strontium compounds have a birefringence of 0.035. The melting points of the new compounds lie within a range of 1980-2500°, which is somewhat lower than those observed for the strontium compounds. Orig. art. has: 1 figure, 3 tables.

SUB CODE: 07/ SUBM DATE: 12Dec64/ ORIG REF: 002/ OTH REF: 005

Card 2/2 *425*

L 32047-66 FWT(m)/T/TWP(t)/ETI LJP(c) ID/JG
ACC NR: AP6013347 SOURCE CODE: UR/0363/66/002/004/0679/0682

AUTHOR: Pavlikov, V.N.; Lopato, L.M.; Tresvyatskiy, S.G.

35
B

ORG: Institute of Materials Science Problems, Academy of Sciences UkrSSR (Institut problem materialovedeniya Akademii nauk UkrSSR)

TITLE: Phase transformations of certain rare earth chromites

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 679-682

TOPIC TAGS: chromium compound, phase transition, praseodymium compound, neodymium compound, samarium compound, yttrium compound

ABSTRACT: Phase transformations were studied by differential thermal analysis, dilatometric measurements, high-temperature microscopy, and high-temperature x-ray analysis in binary systems formed by chromium oxide with rare earth oxides TR_2O_3 , where $TR_2O_3 = La_2O_3, Pr_2O_3, Nd_2O_3, Sm_2O_3, \text{ and } Y_2O_3$. $LaCrO_3$ was found to have a reversible endothermic transformation at $290 \pm 5^\circ C$, associated with a change from a rhombic to an orthorhombic structure. This is confirmed by the conservation of anisotropy in the single crystal of the high-temperature form of $LaCrO_3$. The effects associated with the transformation of $LaCrO_3$ are slight. No polymorphic transformations were noted at $20-900^\circ C$ in

Card 1/2

UDC 546.65'763

L 32047-66

ACC NR: AP6013347

praseodymium, neodymium, samarium, and yttrium chromites. However, the possibility of polymorphic transformations at higher temperatures is not excluded. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11, 07 / SUBM DATE: 21Jun65 / ORIG REF: 005 / OTH REF: 006

Card 2/2

L 18055-66 EWT(1)/EWT(m)/ETC(f)/EWG(m)/T/EWP(t)/EWA(h) IJP(c)
ACC NR: AT6006176 JD/JG/GS/AT

SOURCE CODE: UR/0000/65/000/000/0295/0300

AUTHOR: Tresvyatskiy, S. G.; Zyrin, A. V.; Maksimenko, S. A.

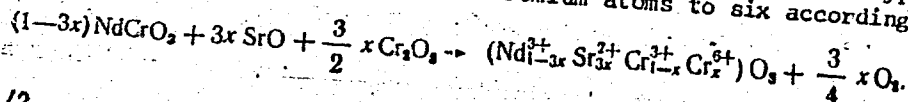
ORG: none

TITLE: Certain electrophysical ^{21, 44, 55} properties of semiconductors based on oxides of ⁴⁹ ^{B+1} ²⁷ metals with changeable valence

SOURCE: Khimicheskaya svyaz' v poluprovodnikakh i tverdykh telakh (Chemical bond in semiconductors and solids). Minsk, Nauka i tekhnika, 1965, 295-300

TOPIC TAGS: semiconductor, rare earth element, thermoelectric property, lanthanum compound, neodymium compound, chromium compound, thermal emf

ABSTRACT: The temperature dependence of the ^{21, 44, 55} coefficient of thermoelectric force (α, in microvolts/degree) was measured for a series of strontium and calcium doped lanthanum and neodymium chromites. The doping of these Perovskite-type chromites raises the valence of a portion of the chromium atoms to six according to the scheme:



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L 18055-66
ACC NR: AT6006176

where $\alpha \leq 0.05$. This is reflected in a hole-type semiconductivity in the doped chromites. The electrical conductivity of the chromite samples was measured potentiometrically by a 500 kc volt-ammeter using alternating current. For each sample, the temperature (400-1000°K) and the potential difference (which is proportional to the logarithm of sample's electrical conductivity) were recorded simultaneously. The coefficient of thermal emf (α) was calculated using the temperature difference between two ends of the sample. The temperature dependence of the thermal emf coefficient, temperature dependence of specific electric resistivity, and the dependence of α on the temperature logarithm are graphed for several doped chromites. Orig. art. has: 3 figures, 3 formulas.

SUB CODE: 20 SUBM DATE: 31May65/ ORIG REF: 001/ OTH REF: 003

Card 2/2 SHV

TRESVYATSKIY, S.G.; YAREMENKO, Z.A.; LOPATO, L.M.; SOKOLOVSKIY, V.A.;
KARPENKO, V.Ya.

Some physicochemical properties of synthetic periclase single
crystals. Izv. AN SSSR. Neorg. mat. 1 no.11:1878-1882
N '65. (MIRA 18:12)

1. Institut problem materialovedeniya AN UkrSSR. Submitted
April 24, 1965.

SHEVCHENKO, A.V.; LOPATO, L.M.; TRESVYATSKIY, S.G.

Synthesis and some physicochemical properties of the single
crystals of rare-earth chromites. Izv. AN SSSR. Neorg. mat.
1 no.11:1945-1948 N '65. (MIRA 18:12)

1. Institut problem materialovedeniya AN UkrSSR. Submitted
June 21, 1965.

P.T.A. TRESZCZANOWICZ *Chemistry & Chemical Technology*
E. 7

332

542.941.7 : 547.652.1.09 : 547.659.1.07

Treszczanowicz E. and Ciborowski S. Purification and Hydrogenation of Naphthalene to Tetralin.

„Oczyszczanie i uwodornianie naftalenu do tetraliny”. *Przemysł Chemiczny*. No 2—3, 1950, pp. 132—134, 4 tabs.

A method has been elaborated for purification of naphthalene by way of heating with fused sodium. The hydrogenation process was observed in a rotating autoclave in the presence of two different catalysts. The influence of various factors, such as: the degree of hydrogen and naphthalene purity, the temperature of the reaction, the pressure, the quality of the catalyst and its amount and size of grain were examined with regard to the above process.

TRESVYATSKIY, S.G.; LOPATO. L.M.

Factors determining the type of constitutional diagram for binary
systems formed by refractory oxides. Porosh.met. 4 no.5:35-40
S-0 '64. (MIRA 18:10)

1. Institut problem materialovedeniya AN UkrSSR.

L 7693-66 EWT(1)/EWT(m)/T/EWT(t)/EWP(b)/EWA(c) IJP(c) JD/JQ/GG
 ACC NR: AP5028724 SOURCE CODE: UR/0363/65/001/011/1945/1948

AUTHOR: Shevchenko, A. V.; Lopato, L. M.; Tresvyatskiy, S. G. 55
B
 44 55 44 55 44 55

ORG: Institute of Problems of the Study of Materials, Academy of Sciences, UkrSSR
 (Institut problem materialovedeniya Akademii nauk UkrSSR) 44 55

TITLE: Synthesis and some physicochemical properties of single crystals of rare earth chromites

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 11, 1965, 1945-1948

TOPIC TAGS: single crystal, rare earth element, chromium compound, single crystal growth, crystal property, crystal structure, crystallization, fluxed melt, rare earth element chromite 21, 44 55

ABSTRACT: Growing single crystals of rare-earth element chromites from fluxed melts has been studied because of the earlier reported unsuccessful attempts to obtain the single crystals by this technique. The authors also intended to study certain physicochemical properties of these single crystals and to solve the problem of the existence of garnet-type structure in the R_2O_3 - Cr_2O_3 systems. Experiments are described, in which PbO and PbF_2 , PbO and B_2O_3 mixtures, and Bi_2O_3 were used as solvents (fluxes) for the powdered chromite which was synthesized from pure rare earths and chromium nitrate. The R_2O_3/Cr_2O_3 ratio in the starting mixture, the oxides/solvent

Card 1/2 UDC: 546.65'763:548.55 C701 2107

L 7693-66

ACC NR: AP5028724

ratio, and temperature of dissolution were the main variables of the growth process. Exclusive formation of single crystals of the thirteen rare-earth element chromites of the perovskite-type structure was established only in the $PbO + PbF_2$ fluxed melt under optimized conditions. The perovskite structure was obtained regardless of whether the R_2O_3/Cr_2O_3 ratio corresponded to the stoichiometric composition of perovskite or garnet. At a maximum temperature of dissolution above the optimum (1360C) in the $PbO + PbF_2$ fluxed melt, in $PbO + B_2O_3$ and in Bi_2O_3 fluxed melts, formation of chromium oxide single crystals was observed in addition to that of perovskite. The single crystals of the rare-earth element chromites had 2 x 2 x 2 mm maximum dimensions. IR spectra, x-ray and petrographic analysis of the crystals indicated that the rare-earth element chromites begin to dissociate at over 2100C in argon and that thermal dissociation increases with decreasing ionic radius of the rare earth element. Orig. art. has: 2 tables and 2 figures. [JK]

SUB CODE: SS/ SUBM DATE: 21Jun65/ ORIG REF: 004/ OTH REF: 006/ ATD PRESS;

4142

Card

2/2

TRESVIATSKIY, S.G. [Tresviats'kyl, S.H.]; NAZARENKO, N.D.; DUBOK, V.A.;
NECHITAYLO, V.F. [Nechytailo, V.F.]

Synthesis and properties of magnesium oxide whisker crystals. Ukr. fiz.
zhur. 10 no.6:676-681 Je '65. (MIRA 18:7)

1. Institut problem metallovedeniya AN UkrSSR, Kiyev.

EWG(a)/EWP(a)/EPA(a)-2/EWF(m)/EPP(a)/EWP(1)/EPR/EPA(w)-2/T/
EWP(b) Pat-10/Pi-4, Ps-4, Pt-4, Pw-4, Pz-4
ACCESSION NR: AP5014072

UR/0363/65/001/004/0449/0459

AUTHOR: Tresvyatskiy, S. G.; Parkhomenko, M. A.; Kondratenko, A. D.

TITLE: Studies in production of microcrystalline materials of mica-like structure

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 4, 1965,
449-459

TOPIC TAGS: micaceous crystalline material, phlogopite, mica

ABSTRACT: Production of a new type of micaceous crystalline material from synthetic mica without the use of binders is considered. In order to synthesize micas of the phlogopite class, the authors studied the replacement of potassium ions by lithium, sodium, rubidium, and cesium (monovalent isomorphism), and by calcium, strontium, and barium (heterovalent isomorphism) in potassium phlogopite $\text{KMg}_3(\text{AlSi}_3\text{O}_{10})\text{F}_2$. Isomorphous substitution of potassium was shown to be possible in all these cases, and the formation of solid solutions between micas obtained by

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L 52057-65
ACCESSION NR: AP5014072

5
in the system $(KF)_2$ -MgO-SiO₂-Al₂O₃ were also studied. The preparation of crystalline micaceous materials of finely crystalline structure cast from molten potassium phlogopite is described, and certain physicomechanical, thermophysical, and other properties of these materials were measured and are tabulated. In

were investigated. The results are presented in the form of tables and figures.

has: 4 figures and 5 tables.

ASSOCIATION: Institut problem materialovedeniya Akademii nauk Ukrainiskoy SSR
Vsesoyuznyy nauchnyy tsentr fizicheskoy khimii (Moscow, USSR)

SUBMITTED: 09Oct64

ENCLOSURE

NO REF SOV: 009

OTHER: 001

me
Card 2/2

L 54736-65 EWG(j)/ENT(m)/EWP(w)/EPF(c)/EWA(d)/EPR/T/EWP(t)/EWP(b)/EWA(c)
Pr-4/Ps-4 LJP(c) JD

ACCESSION NR: AF5015444

UR/0185/65/010/006/0676/0681

AUTHOR: Tresvyats'kyi, S. H. (Tresvyatskiy, S. G.); Nazarenko, N. D.; Dubok, V. A.;
Nechytaylo, V. P. (Nechitarlo, V. P.)

TITLE: Production and properties of magnesium oxide whiskers

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 10, no. 6, 1965, 676-681

TOPIC TAGS: magnesium oxide, magnesium oxide whisker, whisker growing, whisker growing method, whisker property, whisker tensile strength

ABSTRACT: A method and equipment for growing magnesium oxide whiskers from the

L 54736-65

ACCESSION NR: AP5015444

spectral analysis. Tensile tests showed that with decreasing diameter the tensile strength of the whiskers approached the theoretical value. The majority of the MgO whiskers with a diameter less than 1- μ had a tensile strength of 1.7-4.5 kg./mm.². This att. had 7 figures. (MG)

ASSOCIATION: ...

NO REF SOV: 005

OTHER: 005

ATD PRESS: 4030

Card 2/2

L 38630-66

ACC NR: AP6008801

basaltic or hexagonal plates. X-ray structural analysis showed that cesium and rubidium synthetic micas belong to the group of synthetic fluoromicas of the phlogopite type. Orig. art. has: 2 figures, 2 tables. 0

SUB CODE: 11/ SUBM DATE: 08Sep64/ ORIG REF: 002/ OTH REF: 001

Card 2/2 JYK

5 1190

2209

23308

8/24/83/040/001/004/007

ABR/ALE

AUTHORS: Geller, Witold; Szpawla, Marjary; Balcerzak, Kazimierz and
Zmieszanowski, Edward

TITLE: Investigations on obtaining xylenes by alkylation of toluene with
methanol in the presence of phosphoric acid on two-sieve as carrier

PERIODICAL: Przemysł Chemiczny, v. 40, no. 1, 1961, 29-31

TEXT: The research on obtaining xylenes by alkylation of toluene with
methanol in presence of phosphoric acid as catalyst, was undertaken in view of
the expected shortage of xylenes in Poland in and after 1965, when production
of polyester fibers will commence. On the other hand, substantial surplus of
toluene and methanol is expected at the same time. Work of similar character was
carried out in America with promising results. In order to establish optimum
conditions under which the synthesis of xylenes can be carried out, various
parameters of alkylation were investigated separately with the following results:
Influence of pressure: there was no alkylation of benzene ring at atmospheric
pressure and 340 - 380°C in presence of orthophosphoric acid on Kieselguhr as
carrier; better results were obtained by using aluminum silica as catalyst.

Card 1/4

23308

11/4/51/040/001/004/007
A221/A.26

Investigations on obtaining nylones . . .

carrier. Eventual application of higher pressure (36 atm) solved the problem and at the same time stopped the dehydration of the catalyst which was observed at atmospheric pressure. Influence of partial steam pressure: certain partial pressure of steam in the reactor is vital for maintaining the activity of the orthophosphoric catalyst. Partial pressure of 6-8 atm was found to be satisfactory, and about 5% of water in proportion to applied mixture had to be added to the reactor. Influence of the mixture composition: on the basis of experience gained the molar ratio 4:1 of toluene and methanol was maintained during most of the tests. Such a mixture secured higher yield of nylones and less-yield of methyl benzenes. Influence of reaction temperature: it was established that optimum alkylation of toluene takes place at a temperature about 20°C lower than that at benzene alkylation. It has been observed that at a temperature above 360°C decomposition of methanol, and consequently carbon (soot) seeping of the catalyst takes place. Influence of catalyst on the reacting mixture ratio: After some experiments, the ratio of 0.25 lit per liter of catalyst was found to be most suitable. Influence of catalyst carriers- kieselguhr, siliceous earth and silica gels: the most difficult part of the investigation was concerned with preparation of a catalyst of good catalytic activity and mechanical strength. Phosphoric acid set on kieselguhr or siliceous earth with, or without benzonitrile,

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23308

P/614/61/040/001/004/007
A221/A126

Investigations on obtaining xylenes ...

ZnO, TiO_2 was not very active and was losing its activity rapidly. This was partly due to chemical combining of phosphoric acid with aluminum and the leaching effect of water. Catalyst made on kieselguhr carrier washed with hot water, lost 50% of P_2O_5 within 12 hours. Accumulation of soot on the catalyst, too, was responsible for loss of activity. Catalyst prepared on silica gel was much superior and after 300 hours still maintained 70-75% of its original activity. As the reaction was carried out at a temperature 10 - 20°C lower than that with kieselguhr catalyst, less carbon settling on the catalyst was observed. The composition of xylenes thus obtained was: 52% of o-xylene, 22% of m-xylene and 26% of p-xylene. Influence of inert two-skeleton carbon catalyst carrier: Following the experience of some Soviet scientists the authors prepared the so-called two-skeleton catalyst carriers: Activated charcoal was soaked in sodium silicate, and SiO_2 in its pores precipitated by means of sulfuric acid. After washing and drying, the carrier was soaked in 40% ortho-phosphoric acid and dried out at 320-340°C. The catalyst thus prepared contained 30% of activated charcoal, 4% SiO_2 and 66% of pyrophosphoric acid ($\text{H}_4\text{P}_2\text{O}_7$). This two-skeleton catalyst mass proved to be more active and durable than those previously described. Its activity remained practically unchanged after a 300-hour test and from the original 66% it retained 50% of orthophosphoric acid. The xylene to poly-methyl toluene ratio

X

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P/44/61/040/001/004/007

A221/A126

Investigations on obtaining xylenes ...

in the crude product was 2:1 with around 27% of p-xylene in it. On the basis of this laboratory work a semi-technical installation was put into operation and the above-mentioned findings were confirmed. There are 2 figures, and 11 references: 7 Soviet-bloc and 4 non-Soviet-bloc. The reference to the most recent English-language-publication reads as follows: Pat. amer. 2756261(1956).

ASSOCIATION: Zakład Syntezy Kontaktowej Instytutu Chemii Ogólnej (General Chemistry Institute, Contact Synthesis Department) in Warsaw.

SUBMITTED: August 9, 1960

Card 4/4

P.I.A.

Chemistry + Chemical Technology

719

517.233.2 - 212.07

Treszczanowicz E. Jaworska I. Synthesis of Diethylamine from Acetic Aldehyde, Hydrogen and Ammonia.

"Synteza dwuetylaminy z aldehydu octowego, amoniaku i wodoru", Przemysl Chemiczny, No. 11, 1950, pp. 680-689, 5 figs., 6 tabs.

Comparative tests of preparing diethylamine from acetic aldehyde, hydrogen and ammonia under atmospheric pressure are described. The synthesis is carried out by continuous method in the presence of two catalysts: $\text{Ni/Al}_2\text{O}_3$ in pieces and $\text{Ni/Cr}_2\text{O}_3$ adsorbed on pumice. The overall synthetic reaction was examined. The effect of the following factors upon the reaction was investigated: 1) temperature (100-200°), 2) rate of the substrate flow (time of contact being 0.5-6 sec.), 3) the ammonia excess in substrate, 4) application of silica gel (from technical water glass purified by means of an

"ionite") as the agent to facilitate the catalyst deposition on pumice. A stability test, covering 200 hours, of $\text{Ni/Al}_2\text{O}_3$ catalyst was made.

6

PTA

1168 542.943.7 : 546.77/78—31.09 : 547.533

Treszczanowicz E., Ciborowski S., Wesolowski J., Nlasczynski M., Kochanowicz W. Catalytic Oxidation of Toluene.

„Kontaktowe utlenianie toluenu”. Przemysl Chemiczny. No. 4, 1951, pp. 246—250, 3 figs., 1 tab.

Catalytic oxidation of toluene with atmospheric oxygen in gaseous phase gives 5% of benzoic acid; 39% benzaldehyde and 36% maleic acid in relation to the mole fraction of toluene used. The conversion was 80%. Vanadium and molybdenum oxides on electrocorundum of Polish production were used as catalysts.

POFOWICZ, Marian; CELLER, Witold; TRESZCZANOWICZ, Edward; ROMANOWSKI,
Wladyslaw

Studies on the influence of certain conditions in the
preparation of nickel catalysts on their structures, activity
and catalytic stability. Przem chem 42 no.10:563-566 C'63.

1. Zaklad Syntezy Kontaktowej, Instytut Chemii Ogolnej,
Warszawa i Katedra Chemii Nieorganicznej I, Politechnika,
Wroclaw.

S/081/63/000/002/060/088
B162/B102

AUTHORS: Treszozanowicz, Edward, Grzelczyk, Stanisław

TITLE: Method of isomerization and carboxylation of carboxylic acids in the presence of zinc cadmium catalyzers

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 408, abstract 2N59 (Pol. patent 44701, Aug. 2, 1961)

TEXT: Aromatic carboxylic acids are isomerized or carboxylized in the presence of catalyzers (CT) from alloys of Zn-Cd or composite oxides of CT, obtained from these alloys by being heated in air. This method makes it possible to lower the temperature of the process and to increase the yield of the product. The CT are prepared by alloying Zn and Cd in the form of metals or their compounds. The alloy is cooled and ground down. It is more advantageous to use composite CT, obtained from calcining the granules (diam. 4 - 5 mm) of Zn-Cd alloy in air at $\sim 500^{\circ}\text{C}$. The regeneration of CT is carried out by calcining in an oxidizing atmosphere. For instance, 242 g of $\text{o}-(\text{KOOCC})_2\text{C}_6\text{H}_4$, containing 5% of Zn-Cd alloy in powder form, in which there is $\sim 40\%$ of Cd, is heated for 2 hours at 400°C under CO_2 pressure of

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Method of isomerization and...

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B162/B102

5 atmospheres. From the reaction product, 124 g (75%) of $n\text{-(HOOC)}_2\text{C}_6\text{H}_4$ (I) is liberated. 12.1 g of the alloy Zn-Cd, in powder form, containing 35% of Cd, is calcinated for 3 hours in air at 550°C, mixed with 242 g of $n\text{-(KOOCC)}_2\text{C}_6\text{H}_4$ and heated for 2 hours at 400°C under CO_2 pressure of 5 atmospheres. The product contains 131 g of I. The yield of I is 79%. By carboxylation of $\text{C}_6\text{H}_5\text{COOK}$ with the same CT, I is obtained with a yield of ~75%. [Abstracter's note: Complete translation.]

Card 2/2

TRF SZCZANOWICZ, Edward

Main trends of the work of the Institute of General Chemistry
in catalysis. Przem chem 42 no.12:684-691 D'63.

OTWINOWSKA, Hanna; TRESZCZANOWICZ, Edward; CIBOROWSKI, Stanislaw

Studies on electric conductivity and catalytic activity of promoted zinc oxide during isopropanol dehydrogenation. Roczniki Chemii 37 no. 7/8:863-869 '63.

1. Institute of General Chemistry, Warsaw.

SZNAJDER, Jerzy; TRESZCZANOWICZ, Edward; CZERWINSKA, Barbara;
CHOJNACKI, Rajmund

Influence of methods of preparing catalysts aluminum silicium
on their protonic activity in the process of xylene polymerization.
Pt.2. Gels precipitated successively and precipitated jointly.
Przem chem 41 no.8:454-457 Ag '62.

1. Zaklad Syntezy Kontaktowej, Instytutu Chemii Ogolnej,
Warszawa.

TRESZCZANOWICZ, E.; SZNAJDER, J.

Second International Catalysis Congress. Przem chem 40
no.7:404-409 J1 '61.

1. Instytut Chemii Ogólnej, Warszawa.

TRESZCZANOWICZ, E.

Distr: 422c(j) 7

A long-life catalyst for the synthesis of acetone from ethyl alcohol. St. Grzelczyk, I. Jarowska, Z. Kohman, J. Sznajder, and E. Treszczanowicz. *Przemysl Chem.* 33, 28-33 (1955) (English summary).—A catalyst of an activity period of 500 hrs., consisting of Fe_2O_3 , Cr_2O_3 , and CaCO_3 , CuO as activator, was prepd.; 54% (on wt.) of Fe_2O_3 , Cr_2O_3 (as used for the conversion of CO and H_2O into CO and H) obtained by the pptn., with AmOH , 38% of a pptd. CaCO_3 , and 8% pptd. CuO, were thoroughly mixed, and pressed into pellets. This catalyst was tested in an app. described in detail. As reaction chamber an electrically heated pipe 60 mm. diam., vol. 1/1, was used. EtOH was supplied as vapor at a temp. of 200°. The reaction products (acetone, H_2O , AcH 0.6%, and AcOH 0.02%) were condensed and the gases washed with H_2O . The feed was 810 ml. EtOH (20% by vol.)/l. catalyst/hr., temp. of the reaction 400-440°. Although the best results (up to 85% yield) were obtained using 20% EtOH soln., it is advantageous to use a 30% soln. due to an increase of the amt. of produced acetone. The regeneration of the catalyst was accomplished every 500 hrs. by passing through it a mixt. of steam (1.5 kg./l. catalyst/hr.) and air (100-150 l./l. catalyst/hr.), and then air alone during 1 hr. Results on a semiindustrial scale. E. Treszczanowicz, A. Plic, St. Grzelczyk, A. Szyperkiewicz, Z. Kohman, and J. Sznajder. *Ibid.* 33-34. The results of lab. expts. were confirmed. The catalyst pellets used were 8 mm. diam., 6-8 mm. high. The temp. of the pipes contg. the catalyst was 380-420°. The supply of alc. (20% by vol.)/l. catalyst/hr. was 750 ml. The regeneration of the catalyst was accomplished every 500 hrs. (temp. 420°). The yield was 75-85%, exceeding from time to time 90%. L. G. Manders

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RECEIVED

Distr: LE2, 124 LE3d

Carbon tetrachloride obtained by noncatalytic chlorination of methane. H. Stegner, K. Marczewski, and B. Trepczanowicz. *Przemysl Chem.* 34, 29-32 (1955) (English summary).—The conditions of continuous production of CCl_4 were established. The app. (described in detail) consisted of (1) a steel reactor lined with bentonite, (2) and HCl absorption tower filled with broken glass, continuously rinsed with 10% NaOH ; at the bottom of it a heated iron bottle to prevent condensation in the tower; (3) a cooling tower, (4) a receiver; (5) a H_2O absorber (95% H_2SO_4) in form of a glass tower; (6) a circulating pump, (7) a gas meter, (8) added Cl meter; (9) feeder of 1:1 CH_3Cl and CH_2Cl_2 ; (10) a gas mixer connected with 1 to close the circuit. Additionally, before the pump, fresh CH_4 was supplied. The reaction temp. was $420-440^\circ$, cooling tower $7-10^\circ$; the amt. of Cl in respect to the gases was 1:5 to 1:8. The yield of CCl_4 was up to 85% (vol.). It is important to use as the supplementary feeding a mixt. of CH_3Cl and CH_2Cl_2 , or CH_3Cl alone, but not CHCl_3 alone. L. G. Manilius

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TREZELANOW

Distr: 4E3d/4E2c(j)

27
Copper catalyst Raney type in the dehydrogenation of cyclohexanol to cyclohexanone. L. Kohmanowa and E. Treszczanowicz. *Przemysl Chemic.* 34, 42-5 (1955) (English summary).—A 1:1 Cu-Al catalyst was prepd., and its action compared with that of Zn-Fe. The Cu (electrolytic) and Al (99.95%) were melted in an O-free oven, and 2 catalysts were prepd.: (a) by breaking into grains 3-4 mm. diam.; etching with NaOH (25%), washing with H₂O to eliminate OH⁻, and storing in EtOH; (b) powdering, etching with NaOH (25%), washing, and drying. Both were heated to 280-300° in H₂ (10 l./hr./25 ml. catalyst) during 8 hrs., before being used. The above catalysts were compared with (c) Zn-Fe. The amt. of reacted cyclohexanol was in each case 4 l./hr./l. catalyst. The activation energy was (cal./mol.): (a) 7700, (b) 14,603, (c) 35-45,000. The yield of cyclohexanone was: (a) 90% at 280°, (b) 97% at 260°. The Cu-Al catalysts were not contaminated after 50 hrs. L. G. Manijus

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2 May
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TRFSZCZANOWICZ, E.; LLPKA, B.; JUREWICZ, A.

Studies on zind⁶-ferrum alloy contacts in the reaction of dehydrogenation of cyclohexanol to cyclohexanone; relationship between catalytic properties and their potentiometric characteristic. p. 319

CHEMIA STOSOWANA (Polska Akademia Nauk) Wroclaw, Poland. Vol. 2, no. 3, 1958

Monthly List of East European Accessions. (EEAI) LC, Vol. 8, no. 9, September 1959.
Uncl.

TRESZCZANOWICZ, EDWARD

Distr: hE3d/hE2c(j)

Phosphate catalyst activity. I. Influence of metal oxide admixtures on catalyst activity in alkylation of benzene with methanol. Leszek Grzelewski, Marian Popowicz, and Edward Treszczanowicz (Inst. Chem. Ogólnej, War-saw). *Chem. Sposobami* 1, 233-38 (1958) (English summary). —A catalyst (I), contg. P_2O_5 64, kieselguhr 20.6, ZnO 6.5, and bentonite 3% was used for vapor-phase alkylation of benzene (II) with $MeOH$. I was prepd. by treating kieselguhr, ZnO , and bentonite, mixed in the above ratio, with 85% H_3PO_4 , drying at $200-20^\circ$, and crushing (grain size 5-10 mm.). To avoid soot formation 5% H_2O was added to II- $MeOH$ mixt. of 2:1 mol. ratio. Contact times were 20 or 25 min. V_2O_5 (2), WO_3 (2), or TiO_2 (1-4%) added to I, increased its activity effectively. CaO (5%) decreased it strongly, Fe_2O_3 (1-4) and Cr_2O_3 (4% with respect to I) had no effect. ZnO and bentonite were also found to improve the activity of I. II. The influence of ignition on catalyst activity. Tentative regeneration. *Ibid.* 239-45 (English summary). —I, and I + 2% TiO_2 were regenerated by 10-hr. ignition at 800° ; a German catalyst (III) contg. P_2O_5 45%, and poisoned by carbon deposit (40%), was regenerated over 10 hrs. by passing in air, 80 l./hr., at 600° and 800° . Under the conditions the activity of I and TiO_2 was completely restored after 20 and 100 min., resp., that of III only partially; apparently C was not the only poison. Hardness and compressive strength of I and TiO_2 regenerated were good. Ignition up to 900° and above reduced activity owing to recrystn. and deformation processes. A. Szafranski

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Treszczanowicz, E.

B-9

POLAND/Physical Chemistry - Kinetics. Combustion.
Explosions. Topochemistry. Catalysis.

Abs Jour:

Referat Zhur

- Khim, No. 9,

1959,

30578

Author :

Grzelewski, L., Popowicz, M., Treszczanowicz, E.

Inst :

Not given

Title :

Studies of the Reactivity of Phosphate Contact
Catalysts. I. Effect of the Addition of Metal
Oxides on the Reactivity of the Catalysts in
the Alkylation of Benzene with Methanol. II.
Effect of Sintering of the Catalysts on Their
Reactivity in the Alkylation of Benzene by
Methanol.

Orig Pub:

Chem Stosow, 1958,

No 2,

233-238,

239-245

Abstract:

I. The reactivity of phosphate catalysts (PC)
containing 64% P₂O₅, 6.5% ZnO, 26.5% kieselguhr,

32

Card 1/3

POLAND/Physical Chemistry - Kinetics, Combustion.
Explosions. Topochemistry, Catalysis.

B-9

Abs Jour: Referat Zhur i Khim, No 9, 1959, 30578

and 3% bentonite has been investigated in the alkylation of C_6H_6 with methanol as a function of the addition of oxides of Ca, Fe, Cr, Ti, V, and W. The addition of 5% CaO reduces the activity of the PC by a factor of 2; the addition of 4% Fe_2O_3 or Cr_2O_3 has practically no effect on the reactivity; and the addition of 2% V_2O_5 or WO_3 or of 1% TiO_2 increases the yield of alkylated products by a factor of more than 1.5. The reactivity of the PC is lowered by the presence of bentonite or ZnO . II. When the PC are sintered at $200-900^\circ$, their reactivity is little affected, the yield of alkylated products varying between 14.0 and 11.2%. Sintering at 1000° reduces the yield of alkylated products to 4.3%. The regeneration of the spent PC by burning out the carbon at $600-800^\circ$ restores the

Card 2/3

POLAND/Physical Chemistry - Kinetics. Combustion. B-9
Explosions. Topochemistry. Catalysis.

Abs Jour: Referat Zhur - Khim, No. 9, 1959, 30578

reactivity of the catalysts to no more than
one-half its former value. -- S. Kiperman

Card 3/3

33

TRESZCZANOWICZ, Edward

Production of terephthalic acid and the possibilities of starting it in Poland. Przem chem 39 no.3:137-141 Mr '60.

1. Zaklad Syntezy Kontaktowej, Instytut Chemii Ogolnej, Warszawa

COUNTRY : POLAND
 CATEGORY : Physical Chemistry, Kinetics, Combustion,
 Explosions, Topochemistry, Catalysis
 ABS. JOUR. : RZhKhim., No 17, 1959, No. 60095
 AUTHOR : Trusovskiy, E. I., Li, E. I., Shchegolev, V. I.
 INSTITUTE : -
 TITLE : The Investigation of Zinc-Iron Contacts in the
 Dehydration Reaction of Cyclohexanol. Correla-
 ORIG. PUB. : Chem. Abstr., 1960, Vol. 54, No 3, 915-923

ABSTRACT : Investigated are activities of a number of
 Zn - Fe contacts (having different compositi-
 ons) with regard to dehydration of cyclohexanol
 to cyclohexanone. The activity of contacts de-
 pends on their composition and on the method of
 preparation. Two contacts, having an identical
 composition (10.5 and 12.8% Fe), but characte-
 rized by differences in structure, resulting
 from different catalytic properties. One of

*tion Between the Catalytic Properties of Con-
 tacts and Their Potentiometric Characteristics.

Card: 1/2

B-16

COUNTRY :
CATEGORY :

B

ABS. JOUR. : RZhKhim., No 17, 1959, No. 60095

AUTHOR :
INSTITUTE :
TITLE :

ORIG. PUB. :

ABSTRACT : the contacts, obtained in slow cooling of the
Con'd Zn - Fe melt, has a stable catalytic activity.
The electrode potential of a sample prepared
from powder derived from this contact, has a
very specific value(-790 mv). Other contacts,
characterized by large absolute values of the
electrode potential, although are higher in
catalyst activities, the latter is unstable.
The authors point to the importance of poten-
tiometric investigation of catalysts.--V. Prolov.

Card: 2/2

IRE SZCZANOWICZ, E.

reports to be presented at the 2nd Intl Congress on Catalysis, Paris, 4-9-Jul '60.

Poland

MIKULSKI, B., SZALOWSKI, M., and SZYMCZAK-
SZALOWSKA, J. - "Properties of nickel layers
electrolytically deposited in the presence
of polymers" (Section II)
MIKULSKI, A., SZYMCZAK, J., BAREK, J., and
SZYMCZAK, J. - "Electrode processes
accompanying the catalytic dehydrogenation
of alcohols on semiconducting oxide catalysts"
(Section II)
MIKULSKI, B. - "On the process of catalytic
reaction of sulfur dioxide with acids in iron
sulphate solution" (Section III)
MIKULSKI, A. - "On trace catalysis" (Section II)
MIKULSKI, B., SZYMCZAKOWSKI, E., and SZYMCZAK, B. -
"The gaseous phase transformation of a mixture
of 2-picolone and 4-picolone in the presence
of nitrate" (Section III)
MIKULSKI, B., and SZYMCZAK, T. - "Hydrogen
transfer in gaseous phase between alcohols
and compounds containing carbonyl groups"
(Section I)
SZYMCZAKOWSKI, E., SZYMCZAKOWSKI, E., and
SZYMCZAKOWSKI, E. - "Thermal and electric
conductivity and catalytic activity of
promoted zinc oxide during isopropanol
dehydrogenation" (Section III)
SZYMCZAK, J. - "Study of selectivity and activity
of copper catalysts in dehydrogenation
reaction" (Section II)
SZYMCZAK, A., and SZYMCZAK, J. - "Influence
of admixtures of pure on the catalytic power
of active carbon in the oxidation of sulfur
hydrogen by oxygen" (Section II)

TRESCZANOWICZ, E.

reports to be presented at the 2nd Intl Congress on Catalysis, Paris, France, 4-9-Jul '60.

Poland

BARANOWSKI, B., SZALONSKI, M., and SZALONSKI, A. - "Properties of nickel layers electrocatalytically hydrogenated in the presence of poisons" (Section II)

BARANOWSKI, B., SZALONSKI, M., and SZALONSKI, A. - "Electrode processes accompanying the catalytic dehydrogenation of alcohols on semiconducting oxide catalysts" (Section II)

BARANOWSKI, B. - "On the process of catalytic reaction of sulfur dioxide with acids in iron sulfate solution" (Section III) (Section II)

BARANOWSKI, B., SZALONSKI, M., and SZALONSKI, A. - "The catalytic transformation of a mixture of 3-pentanol and 4-pentanol in the presence of ammonia and air in a mixture of corresponding nitriles" (Section III)

BARANOWSKI, B., and KUBIATOWSKI, T. - "Hydrogen transfer in gaseous phase between alcohols and compounds containing carbonyl groups" (Section I)

BARANOWSKI, B., and KUBIATOWSKI, T. - "Studies on electric conductivity and catalytic activity of promoted zinc oxide during isopropanol dehydrogenation" (Section III)

BARANOWSKI, B. - "Study of selectivity and activity of copper catalysts in dehydrogenation reactions" (Section III)

BARANOWSKI, B., and SZALONSKI, A. - "Influence of dimensions of pores on the catalytic power of active carbon in the oxidation of sulfur hydrogen by oxygen" (Section II)

Treszczanowicz, E.

5811

640.471.1:547.821.4

Lipka B., Treszczanowicz E., Jaworska I., Jurewicz A. The Study of the Contact Oxidation with Air in the Presence of Ammonia of a 3- and 4-Picoline Mixture.

„Badania nad kontaktowym utlenianiem mieszaniny 3- i 4-pikoliny, powietrzem w obecności amoniaku”. Przemysł Chemiczny, No. 7, 1958, pp. 484—489, 3 figs., 5 tabs.

This paper deals with the preliminary examination of the process of contact oxidation of a 3- and 4-picoline mixture with air in the presence of ammonia. The reaction was carried out in gaseous phase over a contact of vanadium oxides on alumina carrier. The product obtained was a mixture of nitriles of nicotinic and isonicotinic acids. The yield of nitriles at 330—360° was about 63% of the theoretical in relation to the picolines introduced, and 90% to the picolines which entered into reaction. Only 6.6% of the picolines introduced suffered oxidation with decomposition.

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JF

POLAND / Physical Chemistry. Kinetics. Combustion. Explosions. Topochemistry. Catalysis. B

Abs Jour: Ref Zhur-Khimiya, 1958, No 24, 80778.

Author : Treszczanowicz E.

Inst : ~~Not~~ given.

Title : Study of Catalytic Activity of Zn-Fe Alloys in the Dehydrogenation of Cyclohexanol and of Cyclohexane. I. Effect of Cooling Method on the Structure and on the Catalyst Activity.

Orig Pub: Przem. chem., 1957, 13, No 8, 445-449.

Abstract: Effect of cooling method employed in the preparation of Zn-Fe alloys (containing approx. 12.5% Fe) on its structure and on its activity as a catalyst for the dehydrogenation of cyclohexanol is shown. A stable and active compound is obtained as the result of slow cooling. The

Card 1/2

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POLAND / Physical Chemistry. Kinetics. Combustion.
Explosions. Topochemistry. Catalysis.

B

Abs Jour: Ref Zhur-Khimiya, No 24, 1958, 80778.

Abstract: energy of activation of dehydrogenation, E,
in the presence of this compound constitutes
41.3 K cal/mol. Conversely, alloys of the
same composition, that were cooled rapidly,
possess low activity stabilities. Their E
change in the course of reaction.

Card 2/2

POLAND / Chemical Technology: Chemical Products and Their Application. Industrial Organic Synthesis.

Abstr Jour: Ref. Zhur-Khailya, Mo 9, 1939, 32338.

Author: Marozewski, K.; Musierowicz, J.; Stogmar, E.

Title: Not given.

Abstract: Acetone from Acetylene and Water Vapor. I.

Orig Pub: Priroda, 1937, 13, No 7, 405-410.

Abstract: After a brief review of the methods of obtaining acetone, there were submitted the results of a study of the process for obtaining acetone from acetylene (I) and water vapor (WV), a more suitable method for Poland's conditions. In a semi-industrial setup, 98% of I was purified from AsH_3 , PH_3 and H_2S (from a total amount of admixtures, 200-1000 mg./m.³ to 60 mg./m.³) by 40% HNO_3 in a

Card 1/3

Abstract: Sprayer and then was passed successively through 3 purifiers. The mixture of the purified I with superheated WV (1110, 3000) was admitted into a reactor (6 vertical tubes, about 50 mm. in diameter and 1.8 mm. in length) with a catalyst (O) submerged in a water bath with a dissolved mixture of salts (40% KNO_3 ; 5% KNO_2 ; 7% KNO_3) at 420°, and then was admitted into a cooling system consisting of coil pipes and a scrubber. The experimental layout differed from the semi-industrial system of the dry purification of I by the "Caritol" mass and activated carbon. An incompressible and activated G was prepared from 3 parts of ZnO and one part of the mass, used for

Card 2/3

Abstract: the G conversion of the water vapor, with the addition of 4% Br_2 , thereby increasing its activity. G in the form of cakes, 5 x 5 mm. and a specific surface of 15 m²/g. was activated at 430-440° by air (A) and WV (one hour, 200 l. of A per one l. of G in one hour; two hours, 155 l. of A per one l. of G in one hour; and 100 l. of A per one l. of G in one hour). The G regeneration was accomplished by blowing with WV and A at 400-500° in 6-7 hours; at the end only 100-300 l. of A per one l. of G in one hour were used. Diagrams of the process and the reactor are submitted. — I. Matveyeva.

Card 3/3

POLAND / Chemical Technology. Chemical Products and Their Application. Industrial Organic Synthesis.

Abstr Jour: Raf Zbur-Chalys, No 9, 1959, 32340.

Author : Balczak, K., Geller, W., Gliborowski, St., Orszalski, L., Maczankiewicz, O., Popowicz, M., Trzaskanowicz, M.

Inst : Not given.

Title : From the Investigatory Works in the Synthesis of Methyl Benzene.

Orig Pub: Przem. chm., 1957, 13, No 6, 546-550.

Abstract: During the study of the effects of different conditions on the catalytic reaction of the methylation of C_6H_6 by means of CH_3OH in the presence of catalysts (C) containing P_2O_5 , it was discovered that the most favorable conditions are:

Card 1/3

Abstract: 340°; about 55 atm; the molecular proportion, $C_6H_6:CH_3OH = 4:1$; the speed of delivery, 1.25 l. an hour per one l. of C in one hour. The unpurified product contains: ethyl benzene, about 17% by weight; toluene, 30-40%; xylene, 20-25% (50% of them, p-xylene) and 20% compounds of C. The yield of methyl benzenes is proportional to the time of contact with C within a 7-minute limit. The activation energy is 25 kcal./mole; the catalytic reaction is a reaction of the second order. The maximum content of P_2O_5 in C is 60-70%; the effect of the

Card 2/3

Abstract: other component parts is insignificant. The C deactivation, as a consequence of coke sedimentation causing the formation of gaseous products (H_2 , CO , CO_2 , saturated and unsaturated hydrocarbons), may be prevented by the addition of 5% water to the raw material. -- I. Matveyeva.

Card 3/3

220

7
Zinc-iron alloy contact catalysts in the reaction of dehydrogenation of cyclohexanol to cyclohexanone. 7 Relation between catalytic properties and their potentiometric characteristic. Edward Treszczanowicz, Barbara Lipka, and Andrzej Jurewicz. *Chem. Abstr.* 2, 319-25(1958).—The effect of the compn. of Zn-Fe alloys and the effect of the structure of alloys of identical compn. but prepd. in different ways on their catalytic properties and the potentials of their powder electrodes were investigated.

M. Markiewicz

111 Distri: 4E3d

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APPROVED FOR RELEASE: 03/20/2001

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TRESVYATSKIY, S.G.

USSR/Chemical Technology. Chemical Products and their Application.
Glass. Ceramics. Building Materials.

J-12

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27595

Author : P.P. Budnikov, S.G. Tresvyatskiy.

Inst :

Title : Methods of High Temperature Thermal Analysis.

Orig Pub: Ogneupory, 1955, No 4, 166-173.

Abstract: The methods and equipment for the high temperature thermal analysis are described; they make the determination of the melting point of highly refractory oxides and their compounds up to 2200° possible. It is proposed to use a W-Mo thermocouple for temperature measurements and a Mo crucible in the shape of a plate for melting the substances. In order to protect the thermocouple and the plate from oxidation caused by the electric furnace provided with a heating tube of electrographite, N is let through at a speed of 20 to 30 lit per hour; the description of the furnace is given.

Card : 1/2

-56-

USSR/Chemical Technology. Chemical Products and their Application.
Glass. Ceramics. Building Materials.

J-12

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27595

An electronic potentiometer EPP-09 is used to record the thermogram; heating and cooling are usually carried out at a speed of 80° per min.

Card : 2/2

-57-

Hydrogenation of Polish naphthalene 1 decahydronaph-
thalene. ~~Robert Troszowski and Stanislaw Ciborow-~~
~~ski. J. Polym. Sci. Polym. Chem. Ed. 10: 1043-1048, 1972.~~

TRESZCZANOWICZ, E.; SZNAJDER, J.

"Start of Production in an Experimental Installation for Synthesis of Acetone in the
Oswiecim Chemical Works." P. 106,
(CHEMIK, Vol. 7, No. 4, Apr. 1954, Katowice, Poland.)

SO: Monthly List of East European Accessions, (EMAL), LC, Vol. 3,
No. 12, Dec. 1954, Uncl.

TRESZCZANOWICZ, E.

Treszczanowicz, E.; Abramowicz, J.

"The share of Soviet scientists in the world's investigation of catalysis", p. 545
(Przemysl Chemicz, Vol. 9, no. 11, Nov. 1953, Warszawa)

Vol. 3, No. 3

SO: Monthly List of East European Accessions, /Library of Congress, March 1954, Uncl.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSING AND PROPERTY INDEX																																																			
<p><i>Co</i></p> <p>Azeotropic method of dehydrating raw alcohol from yeast. S. Rakowski and E. Truszczanowicz. <i>Przemysl Chem.</i> 21, 147-8(1937).—This method of dehydrating, with 50 parts of benzene and 50 parts of benzene, is at the same time a method of purification, since acetaldehyde, acids and esters are removed nearly completely, 73-8% of them passing with the light fraction, 15.5-25% with the azeotropic fraction, and only 2.8-7.3% remaining with the dehydrated alc. Amines, however, are equally distributed among all the fractions, and require a special process of treatment.</p> <p style="text-align: right;">A. C. Zachlin</p>																																																			
16																																																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

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<p> <i>ca</i> <i>16</i> </p> <p> Azeotropic dehydration of alcohol, using dichloro- methane. S. Bakowski and B. Liszka. <i>Przemysl Chem.</i> 22, 211-27 (1948); cf. C. A. 33, 3517. The soly. of H_2O in CH_2Cl_2 is 0.11% at 20°. 99.3-99.9% EtOH is obtained by azeotropic distn. of 93-99% rectified or crude spirit with CH_2Cl_2. B. C. P. A. </p>																																																			
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<p><i>Ca</i></p> <p>PROCESSES AND PROPERTIES INDEX</p> <p>An azeotropic method of dehydration of alcohol by means of methylene chloride. II. Experiments on a semitechnical scale. S. Bakowski and E. Trezczanowicz. <i>Przemysl Chem.</i> 22, 268-78(1934). ²²⁵⁷ Semi-technical app. for dehydration of alc. by the new method (cf. <i>ibid.</i> 211-27) was constructed. Expts. performed with this app. showed that for attaining satisfactory dehydration a column having about 25 plates is sufficient. It is most appropriate to reconvey the whole dehydrating agent to the uppermost plate. The steam consumption amounts to about 130 kg. per hectoliter of alc. of 90.50°; with 92° alc. it amounts to 164 kg. per hectoliter. As raw material for the production of anhyd. alc., raw spirits can be used, contg. up to 1 g. AcH per l.; 75% of this aldehyde is removed in the course of the process. The strength of the alc. dehydrated by the new method is 90.9°. As far as the content of impurities and other properties are concerned, this product meets the requirements set for export alc. Edward A. Ackermann</p> <p><i>16</i></p>																																																			
<p>ASM-15A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

CA

30

Production of styrene. E. Trestezanowicz. *Przemysl Chem.* 5(28), 486-97(1949).—The methods of production of styrene used in Germany and other countries are reviewed and the possibility of replacing styrene by methylstyrene in the production of synthetic rubber is explored. 19 references.

Frank Gonet

CA

2

Catalysis in the Soviet Union. E. Treščanowicz.
Przemysł chem. 27 (or [N.S.] 4), 43-51 (1948).--A review
of the work of the Russians in the field of catalysis. 21
references. Frank Conet

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

7

CA

10

Purification and hydrogenation of naphthalene. E. Treszczanowicz and St. Cichorowski. *Przemysl Chem.* 6, 132-4 (1959).—A method is given for the purification of $C_{10}H_8$, contg. 0.13-0.16% S with metallic Na, and its subsequent hydrogenation to tetrahydronaphthalene. The kinetics of the hydrogenation reaction in the presence of different catalysts (e.g., $CuO + Cr_2O_3$ on SiO_2 gel, or $Ni-Al_2O_3$) was investigated and the influence of the degree of purity of the $C_{10}H_8$ and H_2 , the temp. of the reaction, the H_2 pressure, and the quality, amt., and grain size of the catalyst on the hydrogenation reaction were examd.

Frank Gonet

CA

16

✓ Azeotropic dehydration of alcohol. R. Treszczanowicz.
Przemysł Chemiczny, 6(29), 177-80(1980).--The consumption
of heat in the azeotropic dehydration of alc. with MeCl
was 130 kg. of steam for each 100 l. of dehydrated alc. The

CO

7

New azeotropic method of determining the water content of liquids. S. Bakowski and E. Treszczanowicz. *Piezomyl* (Chem. 21, 204-8(1937)).—From a series of azeotropizing media methylene chloride was chosen which forms with water an azeotropic mixt. boiling at 38.45°. It forms no azeotropes with Et or higher alcs. Special app. was constructed which allows for easy and accurate reading of water collected. This method is applied to detg. the percentage of water in fuel oils, alc., and mixts. of alc. with benzene and benzene. The error varies between 0.014 and 0.2%.

A. C. Zachin

ANAL. LIT. REF. METALLURGICAL LITERATURE CLASSIFICATION

B-C

**ROLE OF BENZENE AS AN AZOTROPIC AGENT IN THE
DEHYDRATION OF ETHANOL.** S. SOGOMAWA AND R.
TAKEMURA. *Kobunshi Kagaku*, 1938, 20, 68-75.
—The composition and b.p. of azotropic and hetero-
azotropic mixtures of benzene (b.p. 100°, containing
66% of $n\text{-C}_6\text{H}_{14}$), EtOH , and H_2O have been deter-
mined. R. T.

ASM-AEA METALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBLIVE **RELATIONS** **FROM BOWERY**

SACRED #2 **LIGANDS HTP GNY DUE** **ALLOYS** **LA** **AT** **A** **T** **M** **O** **N** **H** **D** **C** **R** **E**

BC

B-II-1

Apatomeric dehydration of alcohol, using di-chloromethane: L. B. Brown and H. T. Cramer, *J. Amer. Chem. Soc.*, 1938, 60, 311-327; cf. S. I. Gusev, 116). The solubility of H_2O in CH_2Cl_2 is 0.12% at 20°, 0.02-0.03% H_2O is obtained by aprotic distillation of 99.99% H_2O with CH_2Cl_2 .

458-SLA METALLURGICAL LITERATURE CLASSIFICATION

ECONOMY DIVISION	ECONOMY DIVISION	ECONOMY DIVISION	ECONOMY DIVISION
1-1000	1000-1999	2000-2999	3000-3999
4000-4999	5000-5999	6000-6999	7000-7999
8000-8999	9000-9999	10000-10999	11000-11999
12000-12999	13000-13999	14000-14999	15000-15999
16000-16999	17000-17999	18000-18999	19000-19999
20000-20999	21000-21999	22000-22999	23000-23999
24000-24999	25000-25999	26000-26999	27000-27999
28000-28999	29000-29999	30000-30999	31000-31999
32000-32999	33000-33999	34000-34999	35000-35999
36000-36999	37000-37999	38000-38999	39000-39999
40000-40999	41000-41999	42000-42999	43000-43999
44000-44999	45000-45999	46000-46999	47000-47999
48000-48999	49000-49999	50000-50999	51000-51999
52000-52999	53000-53999	54000-54999	55000-55999
56000-56999	57000-57999	58000-58999	59000-59999
60000-60999	61000-61999	62000-62999	63000-63999
64000-64999	65000-65999	66000-66999	67000-67999
68000-68999	69000-69999	70000-70999	71000-71999
72000-72999	73000-73999	74000-74999	75000-75999
76000-76999	77000-77999	78000-78999	79000-79999
80000-80999	81000-81999	82000-82999	83000-83999
84000-84999	85000-85999	86000-86999	87000-87999
88000-88999	89000-89999	90000-90999	91000-91999
92000-92999	93000-93999	94000-94999	95000-95999
96000-96999	97000-97999	98000-98999	99000-99999

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PROCESSING AND PROPERTY INDEX																			
COMMON ELEMENTS										COMMON VARIANTS INDEX									
OPEN										CLOSED									
MATERIALS INDEX										PROPERTY INDEX									
<p>BC</p> <p style="text-align: right;">B-II-1</p> <p>Anisotropic dehydration of alcohol, using methylene chloride. II. Semi-industrial-scale tests. S. BAKOWSKI and E. TARSZANOWICZ (Przemysl Chem., 1988, 32, 265-278; cf. B., 1839, 14).—99.8% EtOH is obtained by anisotropic rectification with CH_2Cl_2 of 92% EtOH, containing >1 g. of MeCHO per l. With higher [MeCHO] the anisotrope should be washed with H_2O. R. T.</p>																			
A19-51A METALLURGICAL LITERATURE CLASSIFICATION																			
1ST AND 2ND COPIES										3RD AND 4TH COPIES									
PROPERTY INDEX										MATERIALS INDEX									

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Bc

13-II-1

ANALYSIS OF AQUEOUS SOLUTIONS OF COBALT(II) ION
IN THE PRESENCE OF AQUEOUS SOLUTIONS OF
(FORMIC ACID) AND OF AQUEOUS SOLUTIONS OF
COBALT(II) ION AND OF AQUEOUS SOLUTIONS OF
COBALT(II) ION. The analysis is determined by electroplating
the cobalt(II) ion from the aqueous solution of the
of H₂O separating from the electroplating solution.

COMMON ELEMENTS

COMMON VARIABLES INDEX

OPEN

NATURAL INDEX

ASH-15A METALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBOL

REPEAT ONE ONLY

FROM SYMBOL

REPEAT ONE ONLY

GROUPS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

[illegible]

1ST AND 2ND ORDERS																									
PROCESSES AND PROPERTIES INDEX																									
<p>7A</p> <p>Role of benzine as azeotropizing agent in the process of dehydration of alcohol. S. Sosnowski and E. Tieszenowicz. <i>Przemysl Chem.</i> 20, 60 75(1941).--Sp. gr., distn. curve (Engler), elementary compn., apparent mol. wt. and content of aromatic and unsatd. hydrocarbons, as well as of paraffins and naphthenes were detd. for benzine used in Poland for dehydration of alc. The compn. and b. p. of the "azeotrope" benzine-alc. and of the "heteroazeotrope" benzine-alc.-water were detd. The main constituent of the benzine used is <i>heptane</i>, which accounts for 60% of the mixt. of hydrocarbons. The b. p. of "azeotrope" 52.6% (by vol.) benzine and 47.4% alc. is on the av. 72.6°, while the b. p. of the "heteroazeotrope" consisting of 64% (by vol.) benzine, 5% H₂O and 31% alc. is 60.7°</p> <p>A. C. Zachin</p>																									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

BC

B-II-1

Degeneration of alcohol of high acetaldehyde content by an anisotropic method. S. Benezewski, E. Timaschewitch, and J. Dulowski (Pracey Chem., 1936, 20, 188-203). Most of the MeCHO present in potato spirit is removed with the first fractions obtained by anisotropic distillation with 1:1 C₂H₅-benzene, when the succeeding fractions yield abs. EtOH. The benzine should have b.p. 100-102° and should not contain PhMe.

B. T.

COMMON ELEMENTS																										PROCESSING AND PROPERTIES INDEX																									
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS																																						
<p>Dehydration of alcohol of high acetaldehyde content by an azeotropic method. S. Dulowski, b. Iwanagowicz and J. Dulowski. <i>Przemysl Chem.</i> 20, 103-104 (1939). Most of the MeCHO present in potato spirit is removed with the first fractions obtained by azeotropic distn. with 1:1 C₆H₆-benzene, when the succeeding fractions yield abs. EtOH. The benzene should b. 100-102°, and should not contain PhMe. R. C. A.</p>																																																			
<p>450 354 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

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<p>Role of benzine as azeotropizing agent in the process of dehydration of alcohol. S. Sosnowski and E. Treszczanowicz. <i>Przemysl Chem.</i> 20, 69-75(1936).—Sp. gr., distn. curve (Engler), elementary compn., apparent mol. wt. and content of aromatic and unsatd. hydrocarbons, as well as of paraffins and naphthenes were detd. for benzine used in Poland for dehydration of alc. The compn. and b. p. of the "azeotrope" benzine-alc. and of the "hetero-azeotrope" benzine-alc.-water were detd. The main constituent of the benzine used is <i>heptane</i>, which accounts for 60% of the mixt. of hydrocarbons. The b. p. of "azeotrope" 52.6° (by vol.) benzine and 47.4° alc. is on the av. 72.5°, while the b. p. of the "heteroazeotrope" consisting of 64% (by vol.) benzine, 5% H₂O and 31% alc. is 69.7°.</p> <p style="text-align: right;">A. C. Zachlin</p>																																																			
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1ST AND 12TH ORDERS										140 AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">BC</div> <div style="font-size: 1.5em; font-weight: bold; margin-bottom: 10px;">B-3-1</div>					<p style="margin: 0;">Anisotropic dehydration of crude alcohol from pressed yeast manufacture. S. BAKOWSKI and E. TRESZCZANOWICZ (Przemysl Chem., 1937, 21, 147--148).—The crude spirit is subjected to azeotropic dehydration (with C_2H_6 and benzene), when 99.72% EtOH containing MeCHO 0.04, acids 0.0045, and amines 0.0007% is obtained, the bulk of the MeCHO, AcOH, and EtOAc being eliminated in the pre-distillate. The process does not give satisfactory separation of amines.</p> <p style="text-align: right; margin: 0;">R. T.</p>														
<div style="display: flex; justify-content: space-between;"> CSH-51A METALLURGICAL LITERATURE CLASSIFICATION ENTRANCE DATE </div>																			
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B-1-1

Anisotropic determination of the water content of liquids. S. BAKOWSKI and E. TRZESCIANOWSKI (Przemysl Chem., 1937, 21, 304-305). CH_2Cl_2 yields an anisotropic mixture with H_2O , b.p. 38-45°, but not with alcohols. The H_2O content of fusel oil, aq. EtOH , and other fuels containing EtOH is determined by anisotropic distillation with CH_2Cl_2 , measuring the vol. of H_2O separating from the condensed azeotrope. R. T.

Handwritten: *CA* (top left), *13* (top right)

PROCESS AND PROPERTIES INDEX

Butadiene from petroleum. Edward Trenszanowicz.
Przemysl Chem. 4, 301-401 (1918); cf. C.I. 42, 4517d.
 A review. Frank Gonet

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

PERIODIC TABLE

ALLOYS

INDEX

TRESZCZANOWICZ, E.

The Study of Alloy Zinc-Iron Catalysts in Reaction of Dehydrogenation of
Cyclohexanone, Part I by E. TRESZCZANOWICZ, Page 445, Przemysl Chemiczny, No. 8, 1957.

TRESCZANOWICZ, E.

POLAND/Chemical Technology. Chemical Products and Their Uses. Part III. Industrial Organic Synthesis. H

Abs Jour : Ref Zhur-Khimiya, No 15, 1958, 51190

Author : Leszczynski, Z., Treszczanowicz, E.

Inst : -

Title : Synthesis of Phenol and Acetone from Isopropyl Benzene. I. Preliminary Evaluation of the Method of Phenol Production and the Possibility of Its Application by the National Industry.

Orig Pub : Przem. chem., 1957, 13, No 11, 664-668

Abstract : A semi-commercial technique for the production of phenol by propylene alkylation of C_6H_6 , oxidation of the resulting cumene to a hydroperoxide and decomposition

Card : 1/2

POLAND/Chemical Technology. Chemical Products and
Their Uses. Part III. Industrial Organic
Synthesis.

H

Abs Jour : Ref Zhur-Khimiya, No 15, 1953, 51190

of the latter by an ion exchange resin
(Vofatit P) was described. The yield of
phenol, based on C_6H_6 was 85 percent.
Economic factors of the process in the
conditions of PPR as well as process
flowsheet were presented. -- T. Ambrush

Card : 2/2

TRESZCZANOWICZ, E.

Acetone from Acetylene and Water, Part II by K. MARCZEWSKA, H. STEGNER,
J. MUSIEROWICZ and E. TRESZCZANOWICZ, Page 463, Przemysl Chemiczny, No. 8, 1957.

TRESZCZANOWICZ, E.

Treszczanowicz E.

Treszczanowicz E. "Purification and Hydrogenation of Naphthalene to Tetralin."
(Oczyszczanie i uwodornianie naftalenu do tetraliny). Przemysl Chemiczny,
No 2-3, 1950, pp. 132-134, 4 tabs.

A method has been elaborated for purification of naphthalene by way of heating with fused sodium. The hydrogenation process was observed in a rotating autoclave in the presence of two different catalysts. The influence of various factors, such as: the degree of hydrogen and naphthalene purity, the temperature of the reaction, the pressure, the quality of the catalyst and its amount and size of grain were examined with regard to the above process.

SO: Polish Technical Abstracts - No. 2, 1951

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TRESZCZANOWICZ, E.

Poland/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis, I-14

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62698

Author: Treszczanowicz, E., Jaworski, I., Kazmierowicz, W.

Institution: None

Title: Synthesis of Ethylamines from Acetaldehyde, Hydrogen and Ammonia in the Presence of a New Dehydration-Hydrogenation Catalyst

Original
Periodical: Synteza etyloamin z aldehydu octowego wodoru i amoniaku w obecności nowego kontaktu dehydratacyjno-uwodorniającego, Przem. chem., 1955, 11, No 1, 36-39; Polish; Russian and English resúmes

Abstract: Comparative investigations were carried out of the synthesis of ethyl amines (I) in an experimental unit in the presence of 2 different catalysts (C). The old catalyst (OC) containing 7.9% Ni, 2.1% Cr₂O₃, and 90% pumice had strong hydrogenating and weak dehydrating properties. The new catalyst (NC) containing 4.9% Ni and 51% Al₂O₃ had strong hydrogenating and dehydrating properties. The

Card 1/3

Poland/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis, I-14

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62698

Abstract: experiments were conducted in a reactor 1,000 mm high, 350 x 35 mm wide (cross section of the reactor had the shape of an oblate ellipse). Temperature distribution within reactor: bottom 134-135°, middle 152-162°, top 163-175°. Feed: H_2 400 l/hour, CH_3CHO 400 l/hour, NH_3 200 l/hour, circulating gases 4,000 l/hour. Contact time 2.4 seconds. In presence of NC crude product contained more diethyl amine (II) which is the main product aimed at, than with OC under identical conditions. With all other conditions being equal there is observed a large difference in the content of II in the product obtained with fresh C (22.3%) and C in operation for 10 days (28.8%). Changes in composition of the products are due to different mechanism of the process in presence of fresh C and C in operation for a long time. This is confirmed by the fact that on using NC there was obtained immediately (under identical conditions) products containing 28.6% II. After one month of operation the reaction product obtained with OC contained 58.7% I including 26.3% II, with NC it contained 64.5% I including 35.1% II, aldehyde admixtures were 0.5% and 0.1% respectively. An advantage of NC is also its stability to overheating

Card 2/3

Poland/Chemical Technology - Chemical Products and Their Application. Industrial
Organic Synthesis, I-14

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62698

Abstract: and enhanced mechanical strength (after one month of operation OC
had ~30% of its bulk reduced to small particles, NC ~0.5%). A
diagram of the unit is given.

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"APPROVED FOR RELEASE: 03/20/2001

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LESZCZANOWICZ, E.

Poland/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis, I-14

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62702

Author: Leszczynska, H., Leszczynski, Zb., Treszczanowicz, E.

Institution: None

Title: Evaluation of $MgO-SiO_2$ Catalysts for the Synthesis of Butadiene from Ethyl Alcohol, on the Basis of Their Behavior on Oxidation of Indigocarmine

Original

Periodical: Ocena kontaktow $MgO-SiO_2$ do syntezy butadienu z alkoholu etylowego na podstawie zachowania sie w reakcji peroksydacyjnego utleniania indygokarminu, Przem. chem., 1955, 11, No 1, 45-47; Polish; Russian and English resumes

Abstract: There has been ascertained a correlation between the activity of $MgO-SiO_2$ catalyst in the synthesis of butadiene from ethyl alcohol and its activity in the reaction of oxidation of indigocarmine (I)
[Determination procedure see Krause, Przem. chem., 1950, 6 (29), 377].

Card 1/2

Poland/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis, I-14

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62702

Abstract: With the Polish catalyst (PC) containing 70.1% MgO and 29.9% SiO₂ specific active surface 1.0, complete decolorization of I is attained after 13 minutes, with a foreign catalyst (FC) containing 60.0% MgO and 40.0% SiO₂ specific active surface following activation 1.0, complete decolorization of I was attained after 15 minutes. After activation at 480°, time of decolorization of I with PC and FC rose to 28 minutes, on heating PC and FC at 700° for 6 hours, time of decolorization of I with PC rose to 77 minutes, with FC to 57 minutes. Roentgenograms of PC and FC are similar to each other. FC has about the same activity as the PC but is less sensitive to overheating. It is proposed to utilize the method of determining the time of complete decolorization of I as a rapid method of control of the activity of the catalyst during its preparation, activation, operation and regeneration.

Card 2/2

TRESZANOWICZ, E.

chem 2

Polish Technical Abst. 2438 ✓

542.941:8542.973:547.593:669.018.7

No. 4, 1953

Chemistry and Chemical
Technology

Treszanowicz, E. Research over Ferro-Zinc Catalysis
in the Cyclohexanol Dehydrogenation Process.

Badania nad kontaktami cynkowo żelazowymi w reakcji
odwodorniania cykloheksanolu. (prace Gl. Inst.
Chem. Przem. No. 4), Warszawa, 1952, PWT, 50.5 pp.,
38 figs., 35 tabs.

Investigation of the influence on cyclohexanol
dehydrogenation of the iron content in ferro-zinc
alloys. Investigation of the catalytic properties
of the components, and of impurities (oxide),
likely to occur in the course of preparation of the
alloy, or in the event of the alloy working under
unsuitable conditions. Determination of the kinetics
of the dehydrogenation process in the presence of
two alloy catalysis containing only 12.5 percent
and 18.6 per cent iron and of zinc respectively.
Velocity and activation energy constants of
cyclohexanol dehydrogenation in the presence of these
catalysts have also been fixed. The research carried
out over alloy catalysts has made it possible to
advance a conception for the preparation of mixed
catalysts by means of electrolytic separation from

over

Distr: 4E2c(j)/4E3d

7 Catalytic oxidation with air of a mixture of 3- and 4-
picoline in presence of ammonia. Barbara Lipka, Edward
Treszczanowicz, Irena Jaworska, and Andrzej Jurewicz
(Inst. Chem. Ogólnej, Warsaw). *Przemysł Chem.* 37, 484-9
(1958) (English summary).—Oxidation of the mixt. pico-
lines (I) with air in the presence of NH_3 over a supported on
 Al_2O_3 vanadium oxide catalyst gave nicotinic and isonico-
tinic acid nitriles. 7 The oxidation was carried out in the gas
phase. The yield of nitriles at 330–380° was approx. 63%
of the I introduced into the reactor; however, calculated
on the I that has reacted 90% was oxidized to nitriles) and
only 6.6% underwent destructive oxidation. F. J. H.

8
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Distr: 4E2c(j)/4E3d

Problems in the Polish production of chlorine derivatives of methane? Edward Treszczanowicz (Inst. Chem. Ogólnej, Warsaw). *Przemysł Chem.* 37, 451-3(1958). A flow-sheet is presented for the production of MeCl , CH_2Cl_2 , and CHCl_3 . The natural gas contains 0.6% of O and up to 0.4% of C_2H_4 (I) and higher hydrocarbons. This gas is passed with a stoichiometric addn. of H through a reactor filled with Ni catalyst at 300-350°. O is used up in the lower part of the reactor and I is cracked in the higher part. The gas is further passed at 320-350° through a Ni catalyst supported on Al_2O_3 . The gas purified by the above method is cooled and then chlorinated. The method is based on the paper by Stegner, *et al.* (C.A. 53, 2068A), BIOS 851, F.I.A.T. 1299, and BIOS 1662.

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9/1 J.J.

P/014/60/039/003/002/005
A221/A126

AUTHOR: Treszczanowicz, Edward

TITLE: Production of therephthalic acid and the possibilities of its starting in Poland

PERIODICAL: Przemysł Chemiczny, v. 39, no. 3, 1960, 137 - 141

TEXT: Production of therephthalic acid, an intermediate in the manufacturing process of a wool-like polyester fiber is of great importance for the Polish national economy. This synthetic fiber is known in England under the trade name of "Terylene", and its properties are well known. Basic raw material for its production in USSR, UK and USA is paraxylene, obtained as a mixture with other xylenes etc. during the reforming of naphtha. In Poland it is obtained as a by-product from the coke industry. Metaxylene, too, is gaining importance as material for the production of isophthalic acid, isophthalates (plasticisers), polyester resins and fibers. In view of the importance of paraxylene, methods were worked out to increase its yield and to transform metaxylene into paraxylene by means of a catalytic isomerization process. Rapidly growing production of Terylene has led to the development of other methods of xylene synthesis. One is

Card 1/3

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P/014/60/039/003/002/005

Production of terephthalic acid and the possibilities .. A221/A126

based on catalytic dealkylation of polymethyl-benzenes. Another method worked out and patented by Instytut Chemii Ogólnej (Institute of General Chemistry) in Warsaw (Ref. 22: E. Treszczanowicz, W. Celler, M. Popowicz, K. Balcerzak, Pat. PRL 39802 (1955); 4200 (1957)), is based on gas phase alkylation of toluene with methanol. In synthetic mixtures of xylenes, the yield of paraxylene is about 25 - 28%. Synthetic xylenes are free from ethylbenzene and other impurities, an advantage in case a direct method for oxidation of the mixture of all three xylenes into phthalic acids should be introduced. Further, the author discusses the methods of terephthalic acid production by a) oxidation of paraxylene in the liquid phase by nitric acid and oxygen or air, b) oxidation of a mixture of xylenes to a mixture of phthalic acids, c) isomerization of potassium ophthalate in CO₂ over catalyst to the K salt of terephthalic acid, d) disproportionation of benzoic acid to terephthalic acid and benzene, e) oxidation of paradiisopropylbenzene. There are also several other methods, but they have not been tried out on an industrial scale. In the final part of this article, the author discusses the total Polish requirement of xylenes for 1965, estimated at 27,500 t, 13,700 t of which would be for production of wool-like fibers. This amount will be made up of 4,000t from coke production, 2,000 t from crude oil processing, and 7,700 t by synthesis. There are 39 references: 20 Soviet-bloc and 19 non-Soviet-bloc. The

Card 2/3

Production of therephthalic acid and the possibilities... A221/A126 P/014/60/039/003/002/005

referencesto the English-language publications read as follows: (Ref. 4: Chem. Ind., 10, 414, (1958)); (Ref. 5: Chem. Ind., 10, 612 (1958)); (Ref. 33: Chem. Trade J., 145, 1487 (1959)); (Ref. 37: Chem. Trade J., 145, 33 (1959)).

ASSOCIATION: Zakład Syntezy Kontaktowej Instytutu Chemii Ogólnej (Institute of General Chemistry, Department for Catalytic Synthesis, Warsaw)

Card 3/3

TRETCHEV, G. G.

FA 5T13

USSR/Boilers

Apr 1947

"The Flow Resistance of a Steam-water Mixture through a Heated Boiler Tube at High Pressure," A. A. Armand and G. G. Tretchev, 5 pp

"Izv Teplotekh Inst" Vol XVI, No 4

Results of an investigation of flow resistance of a steam-water mixture in a horizontal tube 56/70 mm in diameter at various pressures. On the basis of experiments of the VTI and TsKTI with a horizontal tube 25.5 mm in diameter, formulae are deduced to calculate resistance for pressures, from 10 to 180 atmospheres. Fully illustrated with graphs, diagrams, and formulae.

ANTONOV, V.; TRETENKO, A.; SOROKINA, G.

The unyielding. Izobr. i rats. no. 5:24-25 My '61. (MIRA 14:5)

1. Reydovaya brigada zhurnala "Izobretatel' i ratsionalizator."
2. Predsedatel' respublikanskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, g. Alma-Ata (for Antonov).
3. Zaveduyushchiy promyshlennym otделom Gorkoma Kommunisticheskoy partii Kazakhstana, g. Alma-Ata (for Tretenko).
4. Spetsial'nyy korrespondent zhurnala "Izobretatel' i ratsionalizator", g. Alma-Ata (for Sorokina).
(Kazakhstan—Technological innovations)

AUTHOR: David Butler, W. J. L., Trevelyan, M. J.

1. The first part of the report is a general introduction to the subject of the report. It discusses the importance of the subject and the scope of the report. It also discusses the methods used in the report and the results of the study.

2. The second part of the report is a detailed description of the subject of the report. It discusses the various aspects of the subject and the results of the study. It also discusses the methods used in the report and the results of the study.

3. The third part of the report is a detailed description of the subject of the report. It discusses the various aspects of the subject and the results of the study. It also discusses the methods used in the report and the results of the study.

Card 1/2